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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/709,378	04/30/2004	Ronald K. Maxwell	57640.010273	3377

34018 7590 06/09/2006

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CHICAGO, IL 60601-1732

EXAMINER
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ROST, ANDREW J

ART UNIT	PAPER NUMBER
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3751

DATE MAILED: 06/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	10/709,378		MAXWELL ET AL.	
	<b>Examiner</b>		<b>Art Unit</b>	
	Andrew J. Rost		3751	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 29 March 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-8, 10-18, 20 and 21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8, 10-18, 20 and 21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

### **DETAILED ACTION**

1. This action is in response to the amendment filed on 3/29/2006. Claims 9, 19, and 22 have been cancelled. No claims have been added. Claims 1, 4, 6 and 13 have been amended. Presently, claims 1-8, 10-18, and 20-21 are pending.

#### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 4-8, 10-18 and 20-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 4, line 7 recites the limitation "the flexible membrane". There is insufficient antecedent basis for this limitation in the claim.

In claim 13, "Kevlar<sup>®</sup>" is a trademark and should not be presented in the claims. Trademarks are not definite matter to be claimed and renders the claim indefinite.

#### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 3-5, 7, 8, 16-18 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Dreyer et al. (4,474,205).

Regarding claim 1, Dreyer et al. disclose a U-shaped flange (26) having an inner leg and outer leg (Figure 9, inner leg being attached by acorn nut 45 and outer leg being attached by nut 48), the U-shaped flange forming a closed loop (the U-shaped flange forms a closure with the addition of the seal membrane) and a flexible seal membrane (27) attached to the legs forming an air chamber (col. 3, lines 11-13) with the flexible seal membrane being operated by a source of vacuum and air pressure (not shown) that operate the flexible seal membrane through T-nozzle (37).

In regards to claim 3, Dreyer et al. disclose a blade guide (28 in Fig. 9) adjacent the inner leg of the U-shaped flange and the inner leg of the U-shaped flange is longer than the outer leg of the U-shaped flange.

Regarding claims 4 and 21, Dreyer et al. disclose a frame (10), a blade plate (16), a seal cartridge (26) having an air chamber (col. 3, lines 12-13), and a series of bolts (34) and nuts (36) that are used to connect the seal cartridge frame (26) to the main frame (10) with the seal membrane being inflated and deflated by use of a vacuum and air pressure sources (not shown) that connect to the interior of the air chamber by T-nozzle (37).

In regards to claim 5, Dreyer et al. discloses a blade guide (28 in Figure 9) attached to the seal cartridge so that no portion of the seal membrane extends past the blade guide when deflated.

In regards to claims 7 and 8, Dreyer et al. discloses a seal membrane attached to a U-shaped flange by two concentric rows of outwardly projecting, threaded studs (44 and 54) that are welded to frame (26) (Column 3, lines 13-17).

In regards to claims 16-18, Dreyer et al. discloses blade guide members that are welded inside frame (26) (Column 3, lines 23-26). The blade guide members are located at the open end of the U-shaped flange and have a circular cross section with the outer circumference extending past the length of the inner leg (Figure 9).

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 2, 6, and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dreyer et al. in view of Clark et al. (3,178,779).

Dreyer et al. discloses a U-shaped flange, sealing member and bolts for attaching the flange to the main frame. Dreyer et al. does not disclose seal membrane guides. However, Clark et al. discloses seal membrane guides for protecting seal. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to place the seal membrane guides of Clark et al. inside the seal cartridge of Dreyer et al. in order to protect and prolong the service life of the seal membrane.

Clark et al. discloses an inner seal membrane guide, the tip of the inner seal on the right side of Figure 2, and an outer seal membrane guide, the tip of the inner seal on the left side of Figure 2. The seal membrane guides define a minimum radius for the seal membrane when deflated (Figure 2). The inner and outer seal membrane guides are located nearer the open end of the U-shaped flange (23) than the attachment members. The rounded tips of the inner seal have circular cross sections (Figure 2).

8. Claims 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dreyer et al. in view of Machine Design, "Fluoroelastomer extends pump applications".

Dreyer et al. discloses a seal membrane of a flexible, durable material, such as laminated fabric of heat resistant rubber, with wire or fabric reinforcement (Column 3, lines 8-10). Dreyer does not disclose the use of fluoroelastic material. However, an article in Machine Design titled "Fluoroelastomer extends pump applications" discloses applications for fluoroelastomers include seals, valve liners, O-rings, and pump linings (paragraph 3, line 4) because fluoroelastomers are able to better withstand high temperatures and harsh chemicals than hydrocarbon-based rubber components. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to use the fluoroelastomer of the Machine Design article in place of the rubber of Dreyer et al. in order to provide a wider temperature and chemical ranges for the seal membrane.

9. Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dreyer et al. as applied to claims 10 and 11 above, and further in view of Ryder, Jr. (4,381,985).

Dreyer et al. discloses a seal membrane of a flexible, durable material, such as laminated fabric of heat resistant rubber, with wire or fabric reinforcement (Column 3, lines 8-10). Dreyer et al. does not disclose the nature of the wire or fabric reinforcement. However, Ryder, Jr. discloses a corrosion-resistant springy, porous capillary material, such as webs of woven or non-woven synthetic fiber (e.g., polyester non-woven webs) (Column 1, lines 59-62) for constructing a membrane. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to use corrosion-resistant fabric reinforcement like polyester of Ryder, Jr. as the fabric reinforcement of Dreyer et al. in order to prolong the life of the seal membrane.

10. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dreyer et al. in view of Luffel et al. (6,622,366).

Dreyer et al. discloses a connecting member (31) for raising and lowering the seal cartridge when the damper is raised or lowered (Column 4, lines 28-31). Dreyer et al. does not disclose the use of a hook to raise or lower the seal cartridge. However, Luffel et al. discloses the use of hooks and screws for the purpose of fastening objects together. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to substitute the connecting rods (or bolts) of Dreyer et al. with the hooks of Luffel et al. in order to provide a quicker connecting means between the seal cartridge and blade damper.

### ***Response to Arguments***

11. Applicant's arguments filed 3/29/2006 have been fully considered but they are not persuasive.

Applicant's argument is not well taken because although the reference does not use exactly the same terminology as mentioned by the applicant, however, col. 4, lines 3-21 of Dreyer et al. clearly state that the sealing ring (27) has to be inflated in order to seal against the blade (16). Therefore, it is clear that there is absence of negative pressure (inflating ring 27) therefore in order to bear against the blade. Since Dreyer et al.'s device has the same structure and performs the same function as claimed, the rejection still stands.

### ***Conclusion***

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew J. Rost whose telephone number is 571-272-



Art Unit: 3751

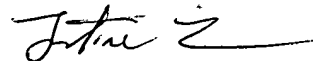
2711. The examiner can normally be reached on 7:30-5 M-Th and 7:30-5 every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Justine Yu can be reached on 571-272-4835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Andrew J Rost  
Examiner  
Art Unit 3751



JUSTINE R. YU  
SUPERVISORY PATENT EXAMINER  
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6/7/06